GENERAL ARRANGEMENT
S.S. "DIXIE ARROW"

Phl. Rpt No 4285

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Lloyd's Register
Foundation

W164-0240

NEW YORK SHIPBUILDING CORP.
CAMDEN, N. J., U. S. A.
BLUE PRINT ROOM

Print No. 19

Made DEC 8 1921

For Dept. Mail

W164-0240

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SHELTER DECK
UPPER DECK
LOWER DECK
L.W.L. 27'-1"
PROFILE
AFTER PEAK TANK
ENGINE ROOM
BOILER ROOM
OIL FUEL BUNKER
COFFERDAM
NO. 10 MAIN TANKS
NO. 9 MAIN TANKS
NO. 8 MAIN TANKS
NO. 7 MAIN TANKS
NO. 6 MAIN TANKS
PUMP ROOM
NO. 5 MAIN TANKS
NO. 4 MAIN TANKS
NO. 3 MAIN TANKS
NO. 2 MAIN TANKS
NO. 1 MAIN TANKS
PUMP ROOM (PORT)
FORE HOLD PACKAGE FREIGHT
BALLAST OR FUEL OIL TANK
CHAIN LOCKER
FORE PEAK TANK
RESERVE FEED OR BALLAST
24'-0" L.B.
WORK BOAT WITH MOTOR
SHELTER DECK HOUSE TOP
BRIDGE
NAVIGATING BRIDGE
HATCH NO. 1
HATCH NO. 3
HATCH NO. 4
HATCH NO. 5
HATCH NO. 6
HATCH NO. 7
HATCH NO. 8
HATCH
RESERVE COAL BUNKER
WING HATCHES 5'-7¼" x 3'-11¼"
TONNAGE OPENINGS
STEERING GEAR
PUMP ROOM TRUNK
3000 GAL. F.W. TANK
W.T. TRUNK
HOSPITAL
12 FIREMEN
14 SEAMEN
PAINTS
LAMPS
STEWARD'S STORES
REFRIG.
FRESH WATER TANKS
ENGRS. WORKSHOP
WING BUNKER O.F.
MAIN BUNKERS OIL FUEL
SUMMER TANK NO. 5.
SUMMER TANK NO. 4.
SUMMER TANK NO. 3.
SUMMER TANK NO. 2.
SUMMER TANK NO. 1.
MAIN TANK NO. 10 PORT
MAIN TANK NO. 9 PORT
MAIN TANK NO. 8 PORT
MAIN TANK NO. 7 PORT
MAIN TANK NO. 6 PORT
MAIN TANK NO. 5 PORT
MAIN TANK NO. 4 PORT
MAIN TANK NO. 3 PORT
MAIN TANK NO. 2 PORT
MAIN TANK NO. 1 PORT
MAIN TANK NO. 10 STBD.
MAIN TANK NO. 9 STBD.
MAIN TANK NO. 8 STBD.
MAIN TANK NO. 7 STBD.
MAIN TANK NO. 6 STBD.
MAIN TANK NO. 5 STBD.
MAIN TANK NO. 4 STBD.
MAIN TANK NO. 3 STBD.
MAIN TANK NO. 2 STBD.
MAIN TANK NO. 1 STBD.
PUMP ROOM BELOW
PACKAGE FREIGHT
2000 GAL. F.W. TANK
STORES

S.S. "YANKEE ARROW"
S.S. "EMPIRE ARROW"
S.S. "LEVANT ARROW"
S.S. "DIXIE ARROW"

SPACE FOR LIBRARY STAMPS.

1.2 H-10 2 Peel 14 My 21
3 5 1
4 S. Linen 17-Jy 21
5
22-Jy-21
6 Mail 1
26-Jy-21
Cont 261
7-8 L.R. Ship
1 Sep 21
9 Mail 2
7 Sep 21
Cont 262
10 L.R. Ship
11 Ship
28-9-21
12-14 Mar 3
18-0-21
Cont 262
15 Mail 1
21-0-21
Cont 266
16-17 Ship 268
18 Ship 1
17 N 21
19-Mail 1
8-D-21

468'-0" x 62'-6" x 39'-6" MLD.

FINISHED PLAN
GENERAL ARRANGEMENT
MADE BY:-T.I.C. SCALE:-1/16"=1 FT. DATE:-7 Jy 21
NEW YORK SHIPBUILDING CORPORATION,
CAMDEN, NEW JERSEY, U.S.A.

DR. 260-202-A

E.H. Rigg NAVAL ARCHITECT.

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MIDSHIP SECTION

S/S "DIXIE ARROW"

Phl. Rpt No. 4285

W164-0241

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NEW YORK SHIPBUILDING CORP.
CAMDEN, N.J., U.S.A.
BLUE PRINT ROOM

Print No. 58

M DEC 8 1927

For Mail

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TABLE FOR WEBS.

Fr. No	Tie Plate	Trans Bhd Stiff "A"	Trans Bhd Stiff "B"	Trans Bhd Stiff "C"	Trans Web To Shell	Trans Web To ℄ Bhd.
8	36"	36"	36"	36"		
9						
10					41"	34"
11	48"	42"	32"	37"		
12					38"	34"
13					38"	34"
14	48"	39"	29"	34"		
15					37"	34"
16					36"	34"
17	48"	37"	27"	32"		
18					34"	34"
19					34"	34"
20	48"	37"	27"	32"		
21					34"	34"
22					34"	34"
23	48"	37"	27"	32"		
24	48"	37"	27"	32"		
25					34"	34"
26					34"	34"
27	48"	37"	27"	32"		
28					34"	34"
29					34"	34"
30	48"	37"	27"	32"		
31					34"	34"
32					34"	34"
33	48"	37"	27"	32"		
34					34"	34"
35					34"	34"
36	48"	37"	27"	32"		
37					34"	34"
38					34"	34"
39						
40	36"	36"	36"	36"		

NOTE:– WEBS ON #8 & 9 AND 39 & 40 ARE TIED TOGETHER WITH SWASH PLATES.

RIVETING

			Dia. of Rivet.	Max. Sp. Dias.
Trans.	All rivets below upper deck (except wing oil sp.)		7/8"	=
	" " above " " (and in " ")		3/4"	—
	Clip ∠s to trans.		Dia. above	5
	Face ∠s " "		"	6
	Butts of trans pltg.		"	4
O.T. Bhds.	Seams & butts of pltg		7/8"	3½
	Boundry ∠s		7/8"	5
	Horizontal stiffs 9-10-11-12		7/8"	5
	Other " "		7/8"	6
	Face ∠s to vertical stiffs		7/8"	6
	Vertical stiffs to bhds		7/8"	4
	Boundry ∠s in stiffs		7/8"	4
℄ Bhd.	O.T. throughout. Seams and butts.		7/8"	3½
	Boundry ∠s trans & ℄ bhds.		7/8"	5
	Trans frames to ℄ bhd		7/8"	5
Ex. Tr. Bhd	O.T. throughout. Butts of pltg.		3/4"	3½
	Boundry ∠s	Stagger.	3/4"	5
	Trans bhd ∠s		3/4"	5
	Web stiffener clip (both legs)		3/4"	5
	Longitudinals		3/4"	6
Floors	Boundry & clip ∠s to W.T. floors		7/8"	4½
	" " " " " O.T. "		7/8"	5
	Vertical ∠s connecting floors to side girders		7/8"	7
Inner Bott.	Seams & butt laps		7/8"	4
	Boundry ∠s to O.T. bhds		7/8"	5
	" " " shell O.T.		7/8"	5
	" " " " W.T.		7/8"	4½
	N.W.T. floors to I.B.		7/8"	5
	W.T " " "		7/8"	4½
	O.T " " "		7/8"	4½
	Inner bottom O.T. in bunker, W.T. in E & B space		—	—
Lower Dk.	O.T. 3/5 L - W.T. elsewhere		—	—
	Seams & butts pltg. O.T.		3/4"	3½
	" of " W.T.		3/4"	4½
	Butts " " W.T.		3/4"	4
	Boundry ∠s O.T. & W.T.		3/4"	5
	" " & longls N.W.T		3/4"	6
	Connection to trans		3/4"	5
	Butts of 22# pltg		7/8"	3½
Upper Dk.	O.T. 3/5 L - W.T. elsewhere.		—	—
	O.T. butts of 22# pltg.		7/8"	3½
	O.T. " " 22# " to 18#		7/8"	3½
	Other O.T. butts & seams		3/4"	3½
	W.T. seams of pltg.		3/4"	4½
	W.T. butts laps		3/4"	4
	Stringer ∠ to deck.		3/4"	4½
	Boundry ∠ " "		3/4"	5
	Trans to deck		3/4"	5
	Longls " "		3/4"	6
	℄ Bhd ∠ to deck		7/8"	5
Shelter Dk.	W.T. throughout		—	—
	Boundry ∠s	3/5 L Ends	7/8" 3/4"	5
	Connection to trans	3/5 L Ends	7/8" 3/4"	5
	Seams of deck pltg	3/5 L Ends	7/8" 3/4"	4½
	Longls to deck	3/5 L Ends	7/8" 3/4"	6
	Q.R. butt laps & T.R.B.L.		1"	4
	Stringer ∠ to 32# pltg.		1"	4½
	" " " other "		7/8"	4½
Shell.	Lower deck str ∠ to shell		7/8"	5
	Upper " " ∠ " "		1	5
	℄ Bhd ∠s to keel		1⅛	5
	Bilge keel to shell		7/8"	5

To Class ✠ 100 A1 at Lloyds.

Longl Framing — To Carry Oil in Bulk.

PRINCIPAL DIMENSIONS.

Length over all	485'-0"
" Lloyds	468.5'
Beam, molded	62'-6"
Depth to shelter deck, molded.	39'-6"
" " upper " "	32'-0"
" " lower " "	24'-6"

LLOYDS NUMERALS

Transverse No.	9450
Longitudinal No.	44273
Equipment No.	47090

L/D = 11.86

ANCHORS, CHAINS & LINES.

1 Bower anchor	Stockless		10,000#
1 " "	"		8420#
1 " "	"		7735#
1 Stream "	Stock	Ex. Stock	2635#
1 Kedge "	"	" "	1232#

300 Fathoms 2½" Stud Chain

120 " 5¼" Wire

130 " 6" "

8" Hawser & Warping (2 Each of 100 Fathoms Each)

Stem	11"×3"
Propeller Post	11"×9"
Rudder Post	9"×9½"
" Plate	47.3# Pintles 6¾" Dia.
" Head	14¼" Dia. Speed 11 Knots.
Frame Spacing	24" in Peaks 28" Under Engines.
Transverse Frames	9'-4" in Oil Spaces
Framing in Peaks	8"×3½"×19.3# B.A. Web Pl. 20.4#

36-41 SY 6
27 JY 20
42 MAIL 1
1 S 20
43 MAIL 1
21 O 20
44-46 MAIL 3
25 O 20
CONT 260/2
47-52 SY 6
27 JA 21
53 ROES 1
26 A 21
54 MAIL 1
19 MC 21

55 MAIL 1
26 JY 21
56 MAIL 1
7 SEP 21
CONT 262
57 MAIL 1
21 O 21
58 MAIL 1
8 D 21

28-29 MAIL 2
30 JA 20
CONT 260-2
30 SY 1
11 F 20
CONT 260/2
31-32 SY 2
12 F 20
33 MAIL 1
26 AP 20
34 MAIL 1
12 JE 20
35 MAIL 1
6 JY 20

20 GROESBECK 1
7 OCT 18
21 Y.M.C.A 1
31 OCT 18
CONT 174/5
22.23 MAIL 2
8 JA 19
CONT 170/3 174/5
24 DETAUBES 1
8 JA 19
CONT 190
25.26 MAIL 2
24 J 19
27 AND MAIL 1
4 JE 19

FOR CONT 175
10-11 MAIL 2
4 MY 18
12 MAIL 1
12 MY 18
13-14 F.P. 2
4 AP 18
15 LLOYDS 1
8 AP 18
16-17 F.P. 2
7 MAY 18
CONT 174/5
18 MAIL 1
2 MY 18
19 MAIL 1
3 MY 18

1 LIB 1
2 5 1
3 M/10 1
4 S/10 1
2 F 17
5 MAIL 1
8 AG 17
6 MAIL 1
16 OCT 17
7-8 MAIL 2
28 D 17
9 MAIL 1
24 JA 18

S.S. "DIXIE ARROW"

N.Y.S. No 266

FINAL PLAN.

MIDSHIP SECTIONS AND TYPE PLANS

SCALE ½" = 1 FT MADE BY L.D.H DATE 25 JAN 17

NEW YORK SHIPBUILDING CORPORATION

CAMDEN, NEW JERSEY, U.S.A.

DR-167-201

E. F. Clegg NAVAL ARCHITECT

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New York S. B.

Scotch Boiler

NEW YORK. S. B Co'y

MAIN BOILERS

SS No 260

WORKING PRESSURE
220 LBS □"

S/S "DIXIE ARROW"

266
262

Rpt No 4285

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W164-0239

NEW YORK SHIPBUILDING COR
CAMDEN, N. J., U. S. A.
BLUE PRINT ROOM
Print No. 40
Made APR 20 1920
For Mail

W164-0239

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260-561-1
FRONT TUBE SHEET
BACK TUBE SHEET
ORDINARY TUBES #10 B.W.G.
12 CONTINUOUS THREADS PER INCH
STAY TUBES #2 B.W.G. .284"
1 5/8" RIVETS
1 9/16" HOLES
4FT 3" ON SHELL
DETAIL OF TOP HEAD STAYS
FRONT & BACK TOP HEAD
4 THDS PER INCH
1 1/2" RIVETS 1 9/16" DRILLED HOLES
INSIDE BUTTSTRAP 1 1/16" THICK
OUTSIDE BUTTSTRAP 1 1/4" THICK
124 ORDINARY TUBES
126 ORDINARY TUBES
TUBES 2 1/2" O.D. BEST CHARCOAL IRON
384 ORDINARY TUBES 2 1/2" O.D. #10 B.W.G.
131 STAY TUBES 2 1/2" O.D. #2 B.W.G.
515 TOTAL
8FT 2" OVER FURNACE
GRATE 5FT 3" LONG
11FT 6" OVER HEADS
BACK TUBE PLATE & WRAPPER DOUBLE RIVETED FOR THIS SPACE
4-1 5/16" HOLES FOR 1 1/4" BOLTS
7/8" RIVETS
29/32" HOLES
2 1/8" PITCH
5FT 0"
8FT 0"
FURNACE
BOTTOM HEAD
HEAD
TUBE SHEET FIRE SIDE
WATER SIDE
FURNACE & C.C. TUBE SHEET
C.C. TUBE SHEET & WRAPPER
C.C. BACK SHEET & WRAPPER
3/4" RIVETS
4 1/2" P.C. FLUSH

BUREAU OF COMMERCE

$$\text{PLATE }\% = \frac{8.8125-1.5625}{8.8125}\times 100 = 82.2\%$$

$$\text{RIVET }\% = \frac{5\times 1.917\times 1.75\times .85}{8.8125\times 1.6875}\times 100 = 95.8\%$$

LLOYD'S RULE

$$\text{PLATE }\% = \frac{8.8125-1.5625}{8.8125}\times 100 = 82.2\%$$

$$\text{RIVET }\% = \frac{5\times 1.767\times 1.75\times 85}{8.8125\times 1.6875} = 88\%$$

ALL CALKING EDGES OF BOILER PLATE TO BE MACHINE PLANED.
SEAMS, BUTTS, AND LAPS TO FIT CLOSELY DRAWN UP METAL TO METAL & AFTER BEING RIVETED, CALKED INSIDE & OUTSIDE
ALL REINFORCE PLATES TO BE CALKED

CONSTRUCTED UNDER THE BOARD OF SUPERVISING INSPECTORS
DEPT OF COMMERCE & LLOYDS RULES
FOR 220LBS. WORKING PRESSURE

DESCRIPTION	THICKNESS	U.S. RULES		LLOYDS RULES	
SHELL	$1\frac{11}{16}$	$P=\frac{60000\times 1.6875}{91.5\times 6}+20\%$	$=221\#$	$P=\frac{22(27-2)\times 82.2}{184.6875}$	$=244\#$
FURNACES	$\frac{11}{16}$	$P=\frac{15600\times .6875}{46}$	$=233\#$	$P=\frac{1259\times(11-2)}{48.375}$	$=234\#$
TOP HEAD PLATE	$1\frac{1}{8}$	$P=\frac{175\times 18^2}{252.781}$	$=224\#$	$P=\frac{175\times 18^2}{252.781}$	$=224\#$
TOP HEAD STAYS	$2\frac{7}{8}$	$S=\frac{16.75\times 15\times 220}{6.49}$	$=8516\#$	$P=\frac{10400\times 6.49}{16.75\times 15}$	$=268\#$
TUBE PLATE	$\frac{3}{4}$	$P=\frac{(3.75-2.232)\times .75\times 27000}{36.4375\times 3.75}$	$=224\#$	$P=\frac{(3.75-2.232)1750\times 12}{35\times 3.75}$	$=242\#$
C.C. CROWN PLATE	$\frac{11}{16}$	$P=\frac{135\times 11^2}{51.695}$	$=315\#$	$P=\frac{135\times 11^2}{51.695}$	$=315\#$
C.C. CROWN STAYS	$1\frac{3}{4}$	$S=\frac{7.375\times 7\times 220}{1.925}$	$=5900\#$	$P=\frac{7500\times 1.925}{7.375\times 7}$	$=279\#$
WRAPPER PLATE	$\frac{11}{16}$	$P=\frac{120\times 11^2}{50.781}$	$=285\#$	$P=\frac{100\times 11^2}{50.781}$	$=238\#$
WRAPPER STAYS	$1\frac{3}{4}$	$S=\frac{7.25\times 7\times 220}{1.925}$	$=5800\#$	$P=\frac{7500\times 1.925}{7.25\times 7}$	$=284\#$
C.C. BACK PLATE	$\frac{11}{16}$	$P=\frac{120\times 11^2}{53.507}$	$=271\#$	$P=\frac{100\times 11^2}{53.507}$	$=226\#$
C.C. BACK STAYS	$1\frac{3}{4}$	$S=\frac{7.5\times 7.125\times 220}{1.925}$	$=6107\#$	$P=\frac{7500\times 1.925}{7.5\times 7.125}$	$=270\#$
CROWN GIRDERS	9x1	$P=\frac{917\times 9^2\times 2}{(36.4375-7)7.375\times 3.036}$	$=225\#$	$P=\frac{11850\times 9^2\times 2}{(35-7)7.375\times 35}$	$=265\#$
WIDE WATER SPACE FRONT HEAD	$1\frac{1}{16}$			$P=\frac{140\times 17^2}{12.75^2}$	$=248\#$

ALTERATIONS	DATE	APP'D

BOILER DATA	ONE BOILER HEATING SURFACE
TUBES	2570.1□'
FURNACES	159.3□'
COMB. CHAMBER	239.4□'
BACK TUBE PLATE	48.6□'
TOTAL H.S.	3017.4□'
GRATE SURFACE	57.75□'
H.S./G.S.	52.2
CALORIMETER	13.1□'
G.S./CAL.	4.4

TENSILE STRENGTH OF SHELL PLATES & GIRDERS 60,000 TO 71680 LBS
" " " FLANGE " 55000 TO 65000 LBS.
WORKING PRESSURE 220LBS. PER SQ.IN.
WATER TEST " 330 " " "
EVAPORATION 300LBS OF WATER PER SQ. FT. OF GRATE PER HOUR
3 1/2 TWIN SAFETY VALVE COMBINED AREA OF 19.24□"

FOR DETAILS OF BOTTOM HEAD STAY & ETC.
SEE DR. 260-561-3

2 BOILER AS DRAWN } FOR ONE SHIP
1 BOILER TO OTHER HAND }

APPROVED
LLOYDS REGISTER OF SHIPPING
APR 22 1920
NEW YORK

1 4 CK 5
16 MR 20
2 LIB 1
3 9 1
4 27 1
5-8 29 4
9-12 46 4
13-14 2 2
15-32 SY 18
19 AP 20
33-40 MAIL 8
20 APR 20

ALL SCREW STAYS W.I.
SCREW STAYS ON BACK HEAD MARKED THUS
◎ 2" DIA. NUT 1 1/4" DEEP ON BACK HEAD ONLY
NET AREA 2.593□"
SCREW STAYS ON BACK HEAD MARKED THUS
○ 1 3/4" DIA. NO NUTS
NET AREA 1.925

S

WRAPPER SCREW STAYS 1 3/4" DIA. NO NUTS
GIRDER SCREW STAYS 1 3/4" DIA. NUTS 1 3/4" & 1 1/4" DEEP
ALL SCREW STAYS HAVE 10 FULL V THREADS PER INCH.
ALL SCREW STAYS TO HAVE 3/16" HOLE DRILLED 1/2" BEYOND INNER SURFACE OF PLATE.

ENGINE DEPARTMENT
TITLE
15FT. 3" INSIDE DIA. x 11FT. 6" OVER HEADS.
S.E. SCOTCH BOILER
220 LBS. WORKING PRESSURE.
SCALE 1" = 1FT. DRAWN BY 1753 DATE 14 APR 20
TRACED BY 1753 CHECKED BY 1723 CHIEF DRAFTSMAN
NEW YORK SHIPBUILDING CORP.
CAMDEN, NEW JERSEY, U.S.A.
DR. 260-561-1
APPROVED ASS'T ENGINEER

W164-0239

260-561-1

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